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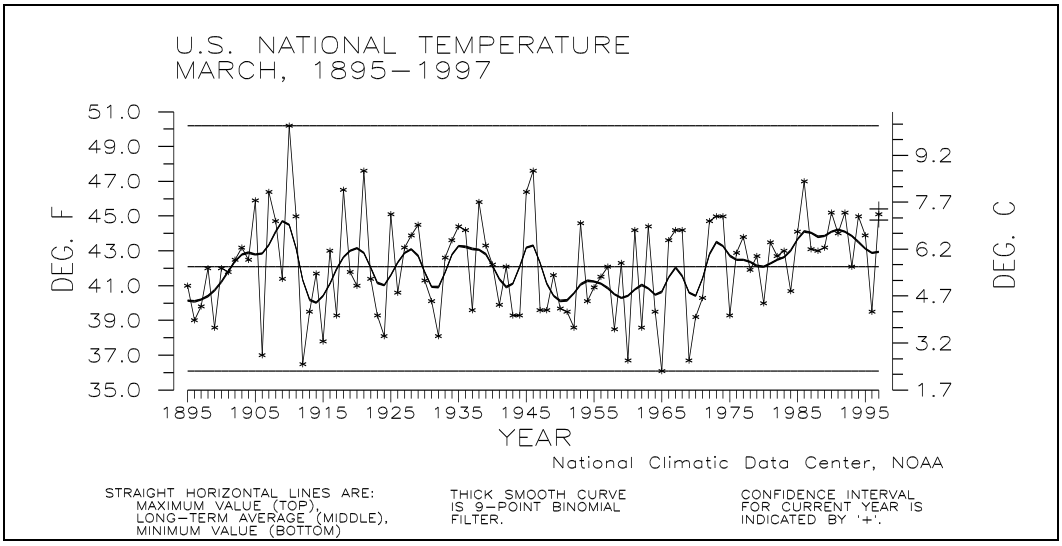
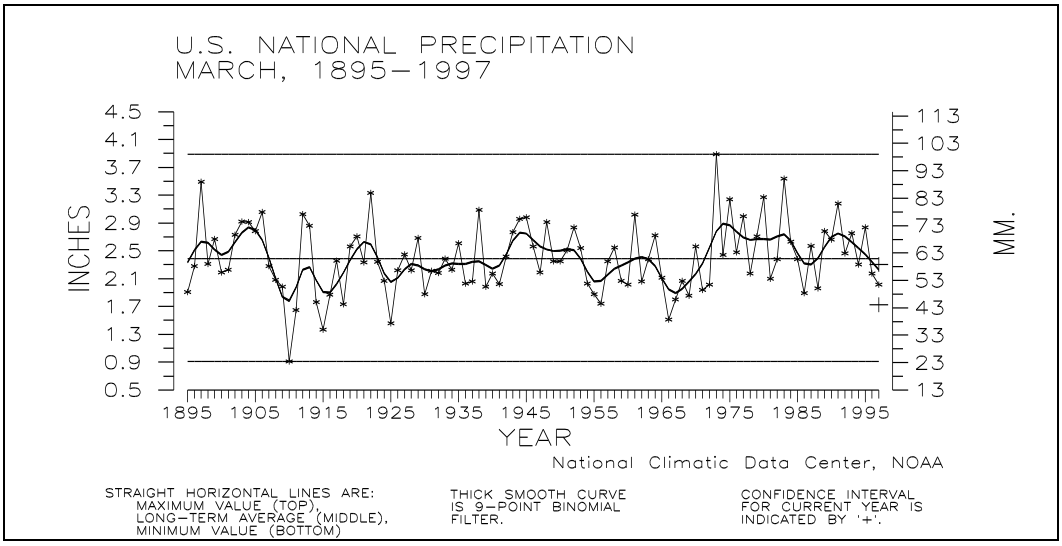
Volume 9 Number 3

CLIMATE VARIATIONS BULLETIN





noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE / NATIONAL CLIMATIC DATA CENTER ASHEVILLE, N.C.

This CLIMATE VARIATIONS BULLETIN (CVB) is a preliminary report that puts current monthly climate anomalies into historical perspective using climate databases archived at the National Climatic Data Center (NCDC). It is issued on a monthly basis. Supplemental sections are included which address seasonal and annual perspectives, when appropriate.

Current data are based on preliminary reports from River Forecast Center stations and First and Second Order airport stations obtained from the National Weather Service (NWS) Climate Prediction Center (formerly, Climate Analysis Center), and preliminary tornado statistics obtained from the NWS National Severe Storms Forecast Center. THE CURRENT DATA SHOULD BE USED WITH CAUTION. These preliminary data are useful for estimating how current anomalies compare to the historical record, however the actual values and rankings for the current year will change as the final data arrive at NCDC and are processed.

The following NCDC datasets are used for the historical data: the climate division drought database (TD-9640), the hurricane datasets (TD-9636 and TD-9697), the tornado dataset (STORM DATA), and the monthly station dataset (LCD supplemental files). It should be noted that the climate division drought database consists of monthly data for 344 climate divisions in the contiguous United States. These divisional values are calculated from the 6000+ station Cooperative Observer network.

If you have access to the Internet, copies of the CVB are available via both the NCDC's World Wide Web (WWW) server and the NCDC's anonymous FTP server.

NCDC's WWW server
URL for the CVB: http://www.ncdc.noaa.gov/publications/cvb/cvb.html

NCDC's anonymous FTP server
Machine: ftp.ncdc.noaa.gov
Directory: /pub/data/cvb

If you are a climate researcher and would like to order copies of the historical datasets used to make graphs of the type in this report, call 704-271-4994 or fax a letter to 704-271-4876 or mail a letter to the address given below, ATTN: Research User Services.

All other questions or requests for data should be made by calling 704-271-4800 or sending a fax to 704-271-4876 or by writing to:

National Climatic Data Center, NCAA
Federal Building
151 Patton Avenue, Room 120
Asheville, NC 28801-5001

If you use any of the information from this CVB, please identify "National Climatic Data Center, NCDC" as the source.

UNITED STATES MARCH CLIMATE IN HISTORICAL PERSPECTIVE

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TABLE 1. PRECIPITATION AND TEMPERATURE RANKS, BASED ON THE PERIOD 1895-1997. 1 = DRIEST/COLDEST, 103 = WETTEST/WARMEST FOR MARCH 1997, 103 = WETTEST/WARMEST FOR FEB-MAR 1997, 102 = WETTEST/WARMEST FOR OCT 1996-MAR 1997, 102 = WETTEST/WARMEST FOR APR 1996-MAR 1997.

REGION	MAR 1997	FEB-MAR 1997	OCT 1996-MAR 1997	APR 1996-MAR 1997
PRECIPITATION:				
NORTHEAST	71	38	84	102
EAST NORTH CENTRAL	29	37	96	71
CENTRAL	62	66	66	96
SOUTHEAST	18	26	49	58
WEST NORTH CENTRAL	32	32	101	79
SOUTH	43	86	64	79
SOUTHWEST	4	24	62	64
NORTHWEST	84	47	100	102
WEST	10	2	73	72
NATIONAL	20	30	93	98
TEMPERATURE:				
NORTHEAST	51	83	78	71
EAST NORTH CENTRAL	58	72	34	21
CENTRAL	77	92	60	37
SOUTHEAST	95	97	79	62
WEST NORTH CENTRAL	72	77	30	31
SOUTH	81	77	65	62
SOUTHWEST	94	87	90	98
NORTHWEST	80	77	75	74
WEST	99	92	94	102
NATIONAL	91	88	74	69

TABLE 2. EXTREMES, 1961-90 NORMALS, AND 1997 VALUES FOR MARCH. IT SHOULD BE NOTED THAT THE 1997 VALUES WILL CHANGE WHEN THE FINAL DATA ARE PROCESSED.

PRECIPITATION (INCHES)

REGION	DRIEST VALUE	DRIEST YEAR	WETTEST VALUE	WETTEST YEAR	NORMAL PCPN	1997 PCPN
NORTHEAST	.71	1915	6.56	1936	3.14	3.84
EAST NORTH CENTRAL	.21	1910	3.50	1977	1.89	1.30
CENTRAL	.55	1910	6.91	1897	3.92	4.04
SOUTHEAST	1.54	1910	8.89	1980	4.75	3.04
WEST NORTH CENTRAL	.39	1994	2.10	1987	1.02	.80
SOUTH	.89	1966	6.28	1973	2.83	2.40
SOUTHWEST	.20	1956	2.90	1905	1.02	.29
NORTHWEST	.58	1965	5.46	1904	2.72	3.40
WEST	.09	1914	6.28	1907	2.23	.65
NATIONAL	.91	1910	3.89	1973	2.47	2.01*

* PRELIMINARY VALUE, CONFIDENCE INTERVAL + OR - .29 INCHES

TEMPERATURE (DEGREES F)

REGION	COLDEST VALUE	COLDEST YEAR	WARMEST VALUE	WARMEST YEAR	NORMAL TEMP	1997 TEMP
NORTHEAST	25.1	1916	42.5	1946	33.4	32.5
EAST NORTH CENTRAL	18.8	1960	42.2	1910	29.9	30.0
CENTRAL	29.0	1960	53.0	1946	43.0	45.5
SOUTHEAST	44.9	1960	63.2	1945	54.7	59.8
WEST NORTH CENTRAL	19.1	1965	43.4	1910	31.2	32.9
SOUTH	43.7	1915	62.6	1907	53.6	56.6
SOUTHWEST	35.6	1917	49.0	1910	41.9	46.1
NORTHWEST	31.0	1917	46.0	1934	38.6	40.5
WEST	39.5	1897	55.0	1934	46.3	51.0
NATIONAL	36.1	1965	50.2	1910	42.4	45.1*

* PRELIMINARY VALUE, CONFIDENCE INTERVAL + OR - .3 DEG. F.

TABLE 3.

STATISTICS FOR SELECTED RIVER BASINS: PRECIPITATION RANKING FOR OCT-MAR 1996-97, WHERE RANK OF 1 = DRIEST, 102 = WETTEST, BASED ON THE PERIOD 1895 TO 1997, AREAL PERCENT OF THE BASIN EXPERIENCING SEVERE OR EXTREME LONG-TERM (PALMER) DROUGHT, AND AREAL PERCENT OF THE BASIN EXPERIENCING SEVERE OR EXTREME LONG-TERM (PALMER) WET CONDITIONS, AS OF MARCH 1997.
RIVER BASIN REGIONS AS DEFINED BY THE U.S. WATER RESOURCES COUNCIL.

RIVER BASIN	PRECIPITATION RANK	% AREA DRY	% AREA WET
MISSOURI BASIN	77	.0%	39.7%
PACIFIC NORTHWEST BASIN	100	.0%	59.3%
CALIFORNIA RIVER BASIN	71	28.8%	10.9%
GREAT BASIN	86	.0%	.0%
UPPER COLORADO BASIN	99	.0%	44.7%
LOWER COLORADO BASIN	38	28.3%	.0%
RIO GRANDE BASIN	63	.0%	3.9%
ARKANSAS-WHITE-RED BASIN	60	.0%	4.7%
TEXAS GULF COAST BASIN	62	.0%	29.7%
SOURIS-RED-RAINY BASIN	96	.0%	73.6%
UPPER MISSISSIPPI BASIN	85	.0%	19.7%
LOWER MISSISSIPPI BASIN	76	.0%	8.5%
GREAT LAKES BASIN	91	.0%	34.1%
OHIO RIVER BASIN	59	.0%	17.1%
TENNESSEE RIVER BASIN	74	.0%	.0%
NEW ENGLAND BASIN	73	.0%	28.5%
MID-ATLANTIC BASIN	84	.0%	42.0%
SOUTH ATLANTIC-GULF BASIN	47	.0%	.0%

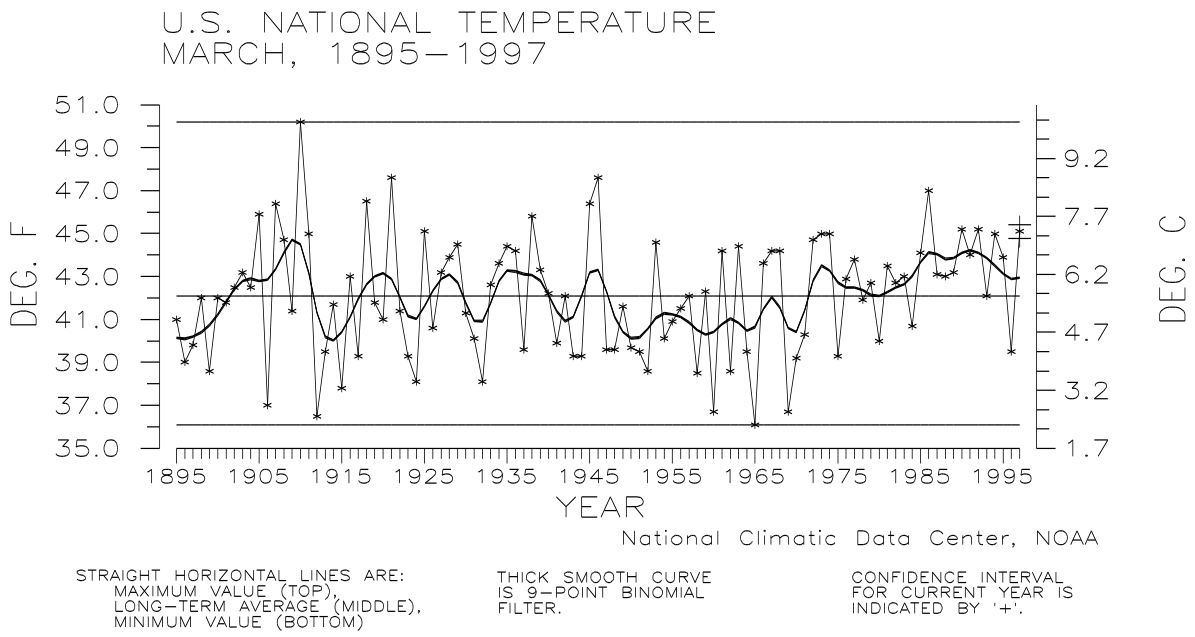

Figure 1: Preliminary data for March 1997 indicate that temperature averaged across the contiguous United States was above the long-term mean ranking as the 13th warmest March since 1895. Over 25% of the country was much warmer than normal while none of the country was much cooler than normal. Twelve of the last thirteen such months have averaged at- to much above the long-term mean.

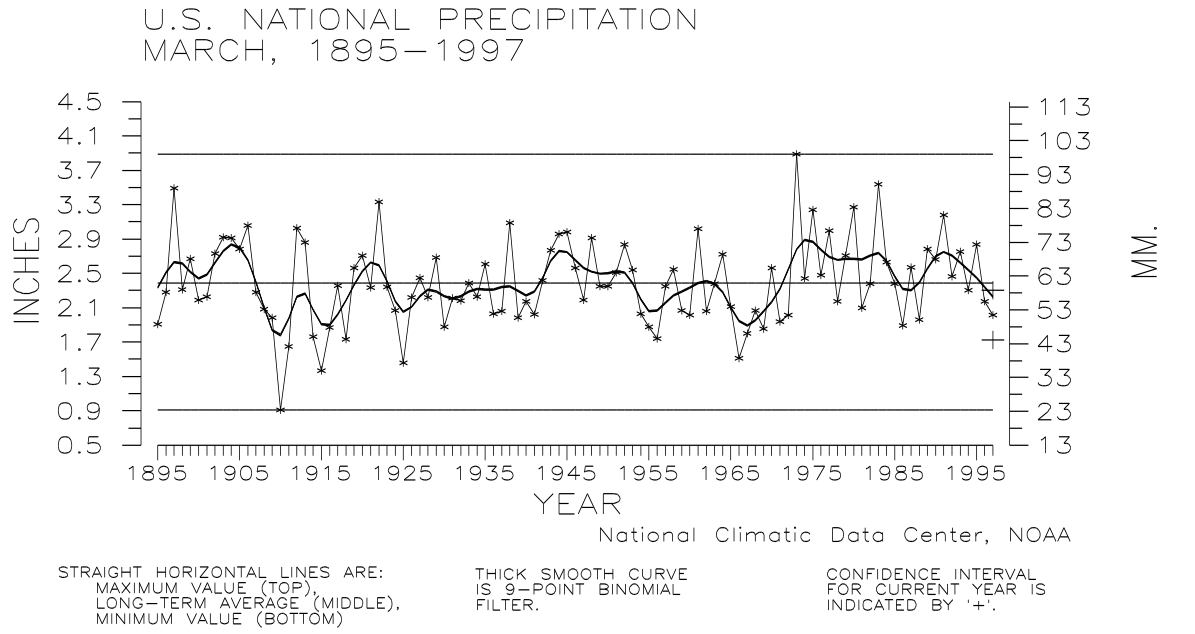

Figure 2: March 1997 was the 20th driest such month since 1895. Twenty-four percent of the country experienced much drier than normal conditions while about seven percent of the country was much wetter than normal.

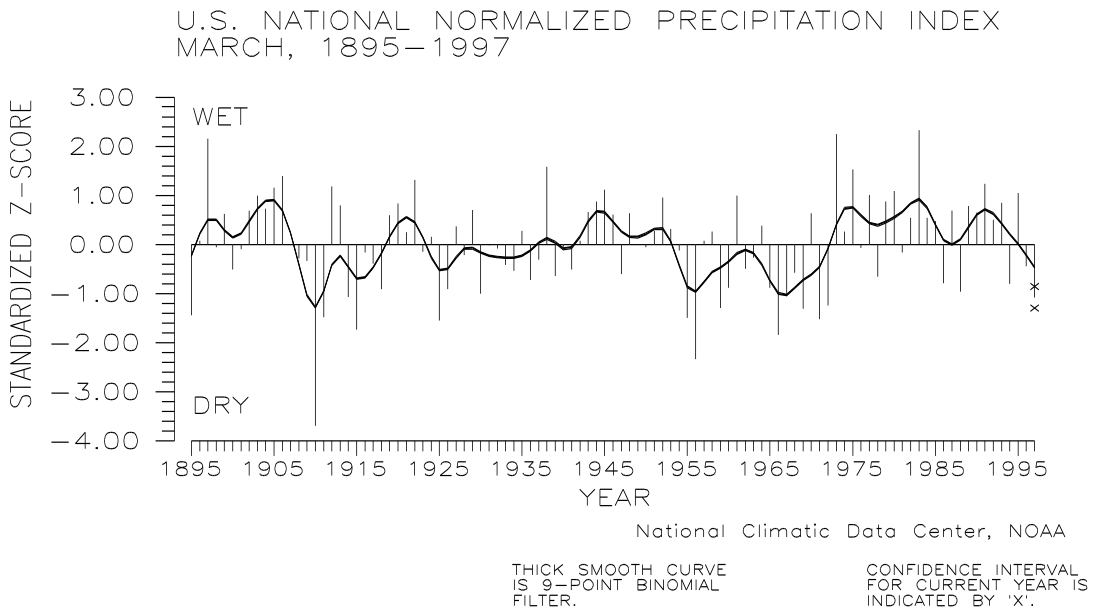

Figure 3: The preliminary national standardized precipitation index ranked March 1997 as the 13th driest such month on record. This standardized z-score is estimated to be accurate to within 0.222 index units and its confidence interval is shown as an 'X'.

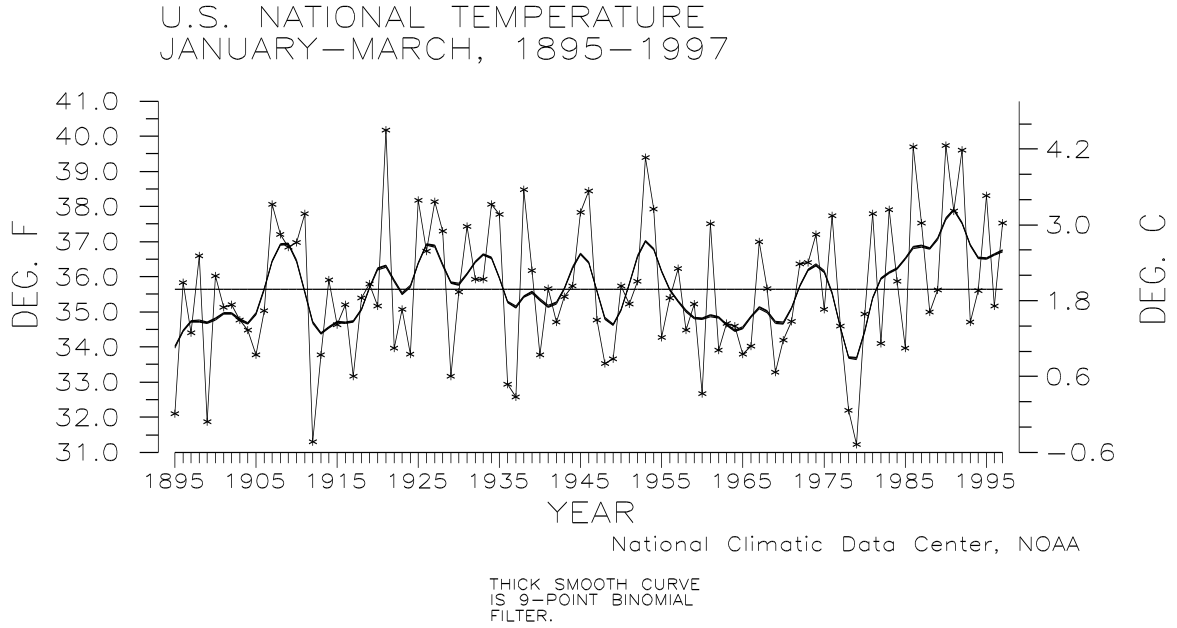

Figure 4: Based upon preliminary data, January-March 1997 was the 21st warmest such period on record. Seven of the last twelve such periods have been much above the long-term mean. For the year to date, over 11% of the country has been much warmer than normal while none of the country was much cooler than normal.

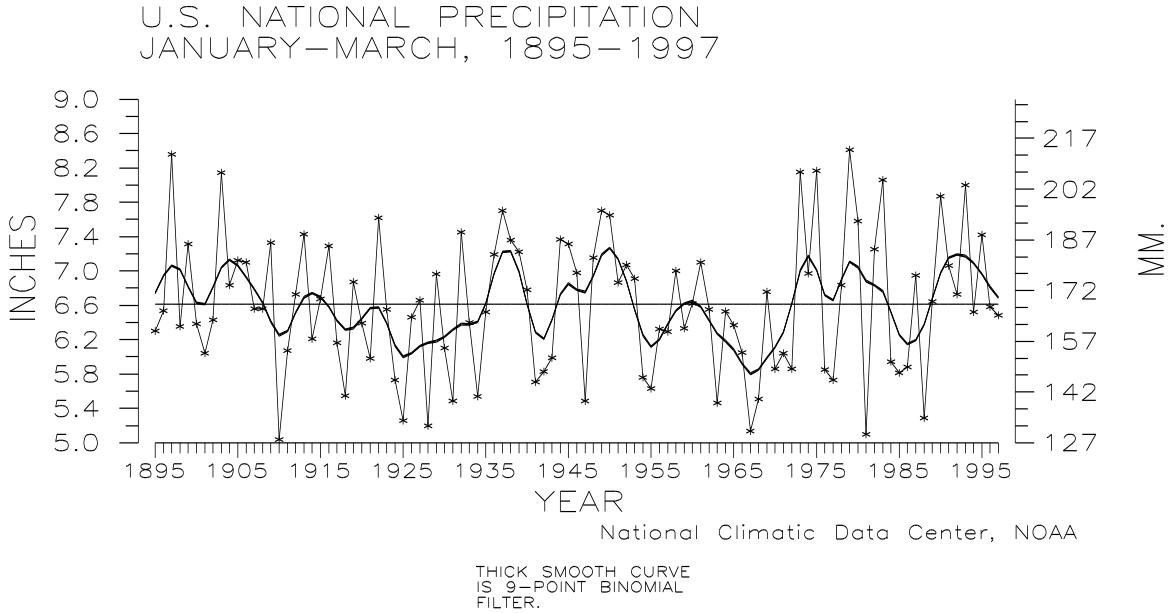

Figure 5: Preliminary precipitation data indicate that the year-to-date, January-March 1997, was the 45th driest such three-month period since records began. About five percent of the country was much drier than normal while about six percent of the country was much wetter than normal.

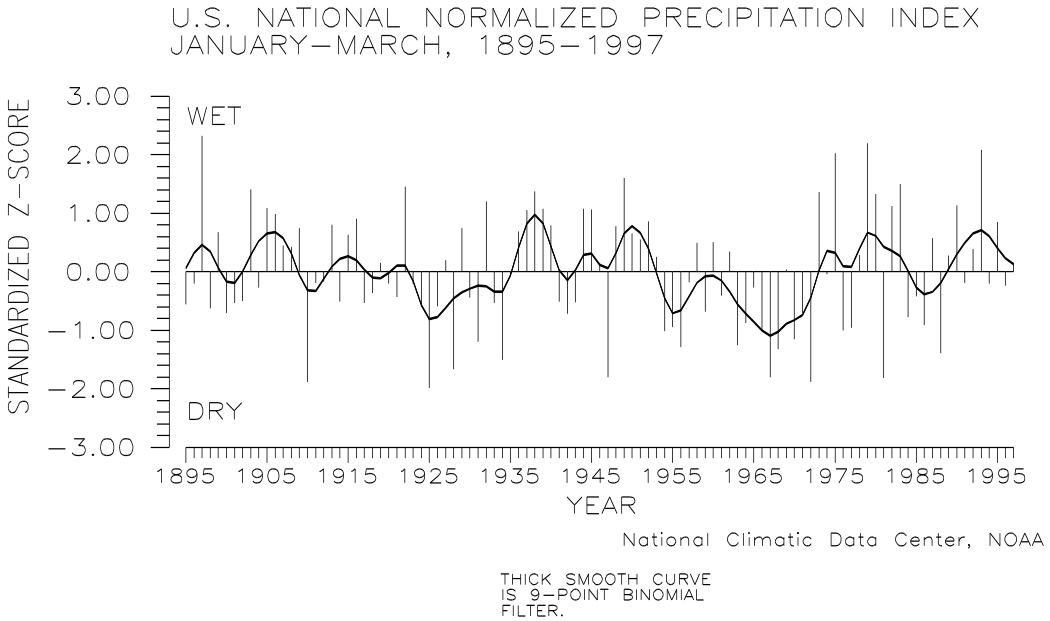

Figure 6: The preliminary national year-to-date standardized precipitation index ranked 1997 as the 47th wettest such period since 1895.

MARCH 1997 STATEWIDE RANKS

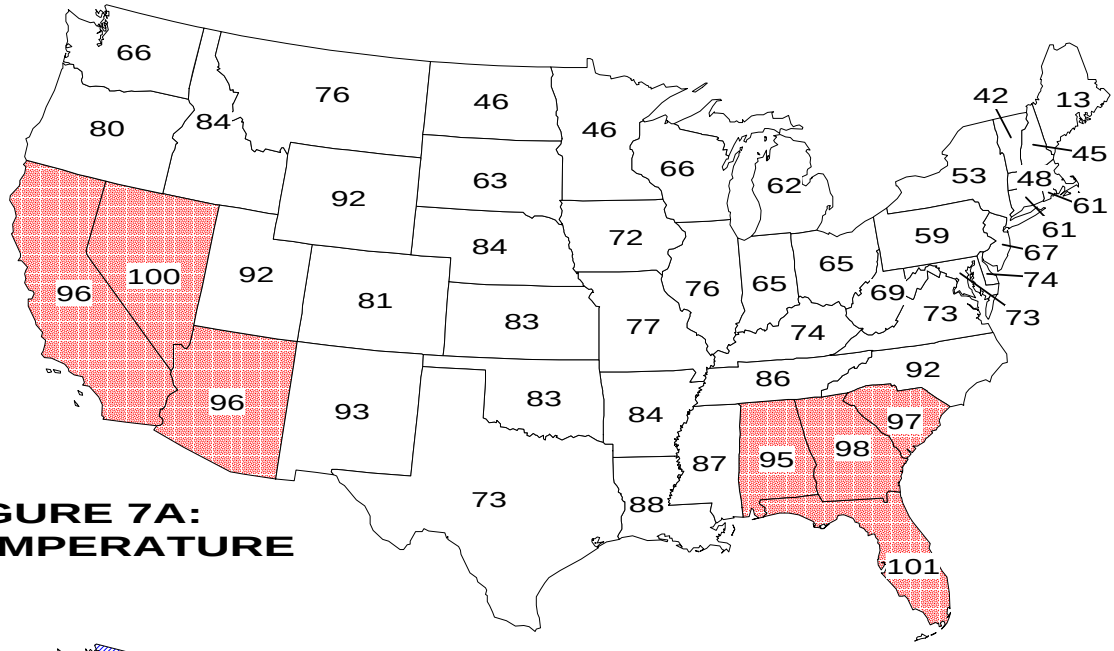

FIGURE 7A: TEMPERATURE

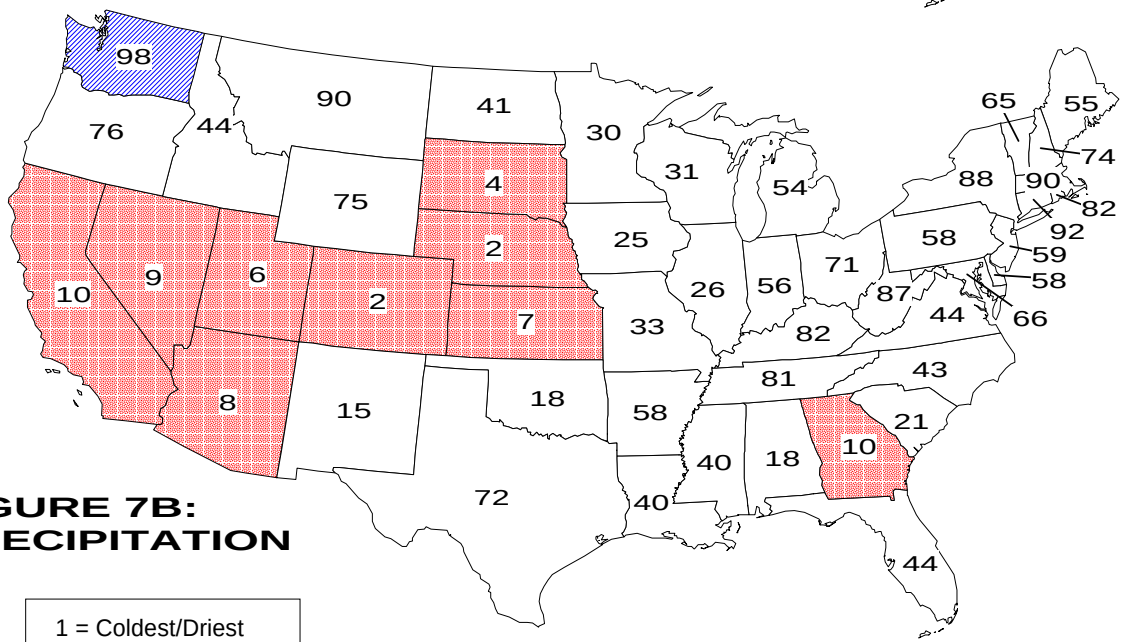

FIGURE 7B: PRECIPITATION

1 = Coldest/Driest
103 = Warmest/Wettest

National Climatic Data Center, NOAA

Temperature and Precipitation Ranks for the contiguous United States. Each state is ranked based on its data from 1895-1997. States having a rank of top ten coldest or driest (rank 1-10) or top ten warmest or wettest (rank 94-103) are shaded.

JAN-MAR 1997 STATEWIDE RANKS

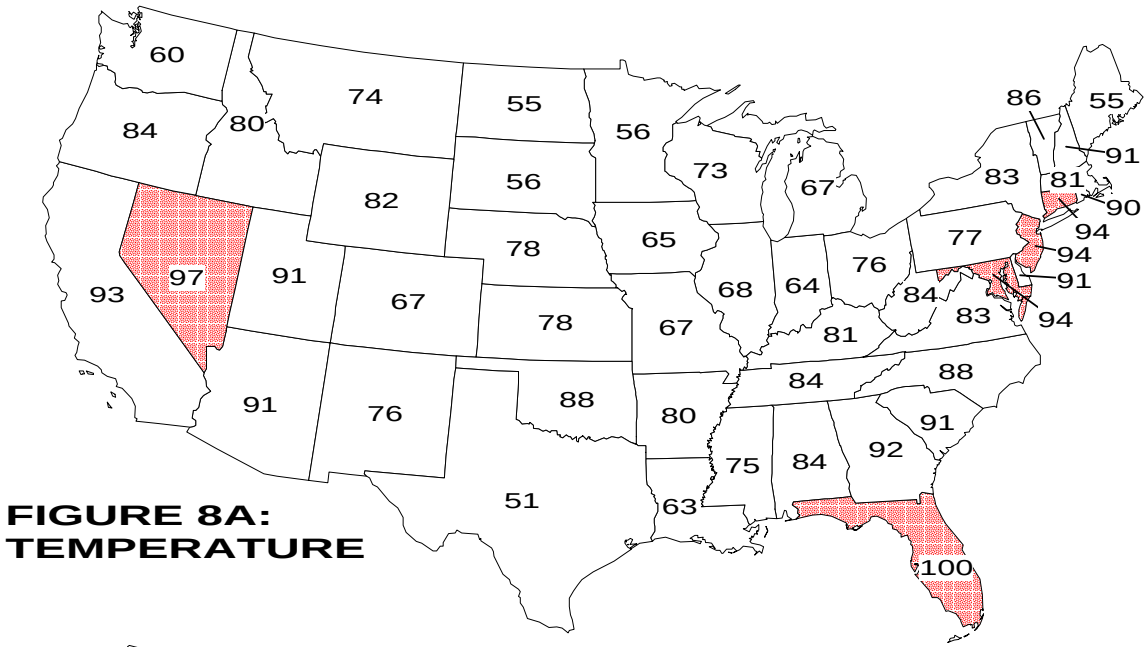

FIGURE 8A: TEMPERATURE

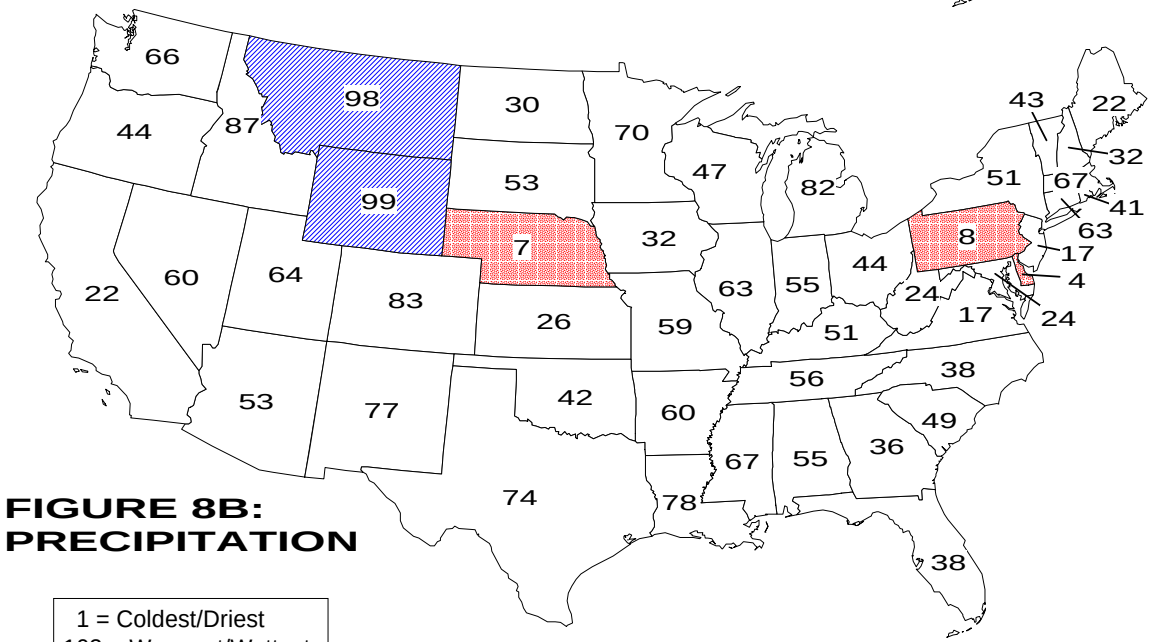

FIGURE 8B: PRECIPITATION

1 = Coldest/Driest
103 = Warmest/Wettest

National Climatic Data Center, NOAA

Temperature and Precipitation Ranks for the contiguous United States. Each state is ranked based on its data from 1895-1997. States having a rank of top ten coldest or driest (rank 1-10) or top ten warmest or wettest (rank 94-103) are shaded.

Figure 7A shows, in illustrative map form, the March 1997 temperature rankings for the 48 contiguous states. No state was within the top ten coolest while one, Maine, ranked within the cool third of the distribution. Comparatively, seven states were within the top ten warmest category, while an additional 23 were within the warm third of the distribution. Based upon preliminary data, March 1997 was the third warmest such month on record for Florida and the fourth warmest such month since records began for Nevada.

March 1997 state ranks for precipitation are shown in Figure 7B. One state (Washington, sixth wettest) ranked within the top ten wet portion of the historical distribution while an additional thirteen states ranked within the wet third. Nine states were within the top ten dry portion of the historical distribution including the second driest March on record for Colorado and Nebraska. It was the fourth driest March since 1895 for South Dakota, sixth driest for Utah, seventh driest for Kansas, eighth driest for Arizona, ninth driest for Nevada, and the tenth driest on record for California and Georgia. Nine other states ranked within the dry-third of the historical distribution. ***It should be noted that these March state categorical precipitation ranks are preliminary and should be used with considerable caution due to the high variability of precipitation on a small space and time scale.***

Year-to-date statewide temperature and precipitation ranks are shown in Figures 8A and 8B. No state ranked within the cool third of the historical distribution for the three-month period while 35 states ranked within the warm third of the distribution. Five states ranked within the top ten warm portion of the distribution. It was the fourth warmest such three-month period on record for Florida, seventh warmest for Nevada, and tenth warmest for Connecticut, Maryland, and New Jersey. January-March 1997 was the fourth driest such period on record for Delaware, seventh driest for Nebraska, and eighth driest for Pennsylvania. Ten other states ranked within the dry third of the historical distribution for the three-month period. The three-month period was the fifth wettest on record for Wyoming and the sixth wettest for Montana. Seven other states ranked within the wet-third of the distribution for the January-March period.

It should be emphasized that all of the temperature and precipitation ranks on these maps and in Table 1 are based on preliminary data. The ranks will change when the final data are processed.

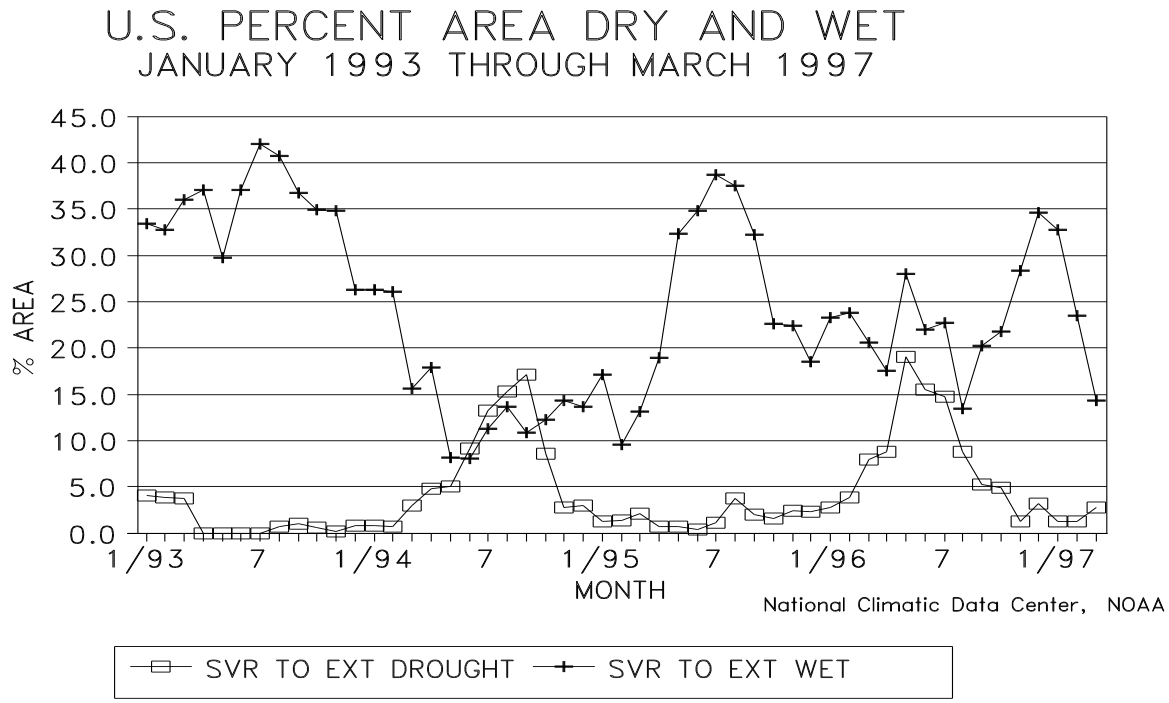

Figure 9: Long-term drought coverage (as measured by the Palmer Drought Index) remained relatively constant for the fifth straight month during March 1997 at slightly below three percent of the country. The percent area of the country experiencing severe to extreme wetness dropped to roughly 14% of the country. The core dry areas included limited portions of the Southwest while core wet areas included much of the northern Great Plains and upper Mid-West, Northwest, central Great Lakes, mid-Atlantic region, and lower New England.